

CLAIMS

1. (Currently Amended) An optical device comprising:

a reflection unit configured to reflect ~~the~~ an incident light from a light source, wherein the reflection unit comprises an imaging mirror, an optical path turning mirror, and a parallel mirror set including a first reflection mirror and a second reflection mirror, wherein the parallel mirror set is positioned to directly reflect the incident light received from the light source between the first reflection mirror and the second reflection mirror, wherein the first reflection mirror is configured to reflect the incident light received from the second reflection mirror to the optical path turning mirror, wherein the optical path turning mirror is positioned to reflect the incident light back to the parallel mirror set, wherein the incident light from the optical turning mirror is received by the parallel mirror set with the first reflection mirror and is reflected between the first reflection mirror and the second reflection mirror; and

a lens configured to form images by focusing focus the incident light reflected by the reflection unit ~~to form images~~, wherein the imaging mirror is positioned to reflect the incident light to the lens.

2. (Canceled)

3. (Canceled)

4. (Currently Amended) The optical device of ~~according to~~ claim 1, wherein the optical device is an optical scanner.

5. (Currently Amended) The optical device of ~~according to~~ claim 4, ~~wherein the optical device further comprising~~ comprises an original document surface configured used to deposit receive a document ~~desired~~ to be scanned, and wherein the original document surface is substantially parallel to the parallel mirror set.

6. (Currently Amended) The optical device of ~~according to~~ claim 5, wherein the optical device is configured to project the incident light provided by the light source ~~is projected~~

to the original document surface first[[,]] and then reflect the incident light reflected to the parallel mirror set.

7. (Currently Amended) The optical device ~~of according to~~ claim 6, wherein between the incident light and the original document surface, there is an incident angle greater than 0 ~~degrees~~ degree.

8. (Currently Amended) The optical device ~~of according to~~ claim 7, wherein when the incident angle decreases, ~~the a~~ reflection number of the incident light reflected between the parallel mirror set increases.

9. (Currently Amended) The optical device ~~of according to~~ claim 1, wherein between the optical path turning mirror and a parallel surface of the parallel mirror set, there is an included angle between 0 ~~degree~~ degrees and 180 degrees, and wherein when the included angle decreases, ~~the a~~ reflection number of the incident light reflected between the parallel mirror set increases.

10. (Currently Amended) The optical device ~~of according to~~ claim 1, wherein between the first reflection mirror and the second reflection mirror, there is a predetermined distance, and wherein when the predetermined distance decreases, ~~the a~~ reflection number of the incident light reflected between the parallel mirror set increases.

11. (Currently Amended) An optical device comprising:
a light source configured to provide an incident light projected to a document ~~desired to~~ be scanned on an original document surface;
a reflection unit configured to reflect the incident light reflected from the document, wherein the reflection unit comprises an imaging mirror, an optical path turning mirror, and a parallel mirror set including a first reflection mirror and a second reflection mirror;
a lens configured to form an imaging signal by focusing focus the incident light reflected by the reflection unit ~~to form an imaging signal~~; and

an image sensor configured to convert the imaging signal ~~produced by the lens~~ into an electronic signal, wherein the reflection unit is further configured to provide an optical path for the incident light from the light source to the lens, wherein the optical path comprises, in sequence, the light source, ~~the parallel mirror set,~~ the optical path turning mirror, ~~the parallel mirror set,~~ the imaging mirror, and ~~the lens,~~ wherein ~~the incident light received by the parallel mirror set~~ is configured to receive the incident light from the optical turning mirror ~~is reflected and directly reflect the incident light~~ between the first reflection mirror and the second reflection mirror.

12. (Canceled)

13. (Canceled)

14. (Currently Amended) The optical device ~~of according to~~ claim 11, wherein between the incident light and the original document surface, there is an incident angle greater than 0 ~~degree~~ degrees, and wherein when the incident angle decreases, ~~the a~~ reflection number of the incident light reflected between the parallel mirror set increases.

15. (Currently Amended) The optical device ~~of according to~~ claim 11, wherein between the optical path turning mirror and a parallel surface of the parallel mirror set, there is an included angle between 0 ~~degree~~ degrees and 180 degrees, and wherein when the included angle decreases, ~~the a~~ reflection number of the incident light reflected between the parallel mirror set increases.

16. (Currently Amended) The optical device ~~of according to~~ claim 11, wherein between the first reflection mirror and the second reflection mirror, there is a predetermined distance, and wherein when the predetermined distance decreases, ~~the a~~ reflection number of the incident light reflected between the parallel mirror set increases.

17. (Currently Amended) The optical device ~~of according to~~ claim 11, wherein the parallel mirror set is substantially parallel to the original document surface.

18. (Currently Amended) A device, comprising:

a parallel mirror set including a first reflection mirror and configured to receive light from a light source, ~~the parallel mirror set including a first reflection mirror and a second reflection mirror;~~

an optical path turning mirror configured to receive the light from the first reflection mirror ~~parallel mirror set~~ and to reflect the light back to the first reflection mirror ~~of the parallel mirror set~~, wherein the device is configured to reflect where the light received from the optical path turning mirror ~~is reflected~~ between the first reflection mirror and ~~the a~~ second reflection mirror ~~of the parallel mirror set~~; and

an imaging mirror configured to receive the light from the first reflection mirror ~~of the parallel mirror set~~ and to reflect the light to ~~[[a]]~~ an image sensing device.

19. (Currently Amended) The device of according to claim 18, wherein the device is configured to reflect the light from the light source ~~is reflected~~ from a document to the imaging mirror.

20. (Currently Amended) The device of according to claim 18, wherein a number of light reflections between the first reflection mirror and the second reflection mirror corresponds to an angle by which the light approaches the parallel mirror set from the light source.

21. (Currently Amended) The device of according to claim 18, wherein a number of light reflections between the first reflection mirror and the second reflection mirror corresponds to an angle between the optical path turning mirror and a parallel surface of the parallel mirror set.

22. (Currently Amended) The device of according to claim 18, wherein a number of light reflections between the first reflection mirror and the second reflection mirror corresponds to a distance between the first reflection mirror and the second reflection mirror.

23. (Currently Amended) The optical path device of according to claim 1, wherein a number of reflections of the incident light between the first reflection mirror and the second reflection mirror corresponds to at least one of an angle the incident light approaches the parallel mirror set from the light source, an angle of the optical path turning mirror relative to the parallel mirror set, or a predetermined distance between the first reflection mirror and the second reflection mirror.

24. (Currently Amended) The optical path device of according to claim 1, wherein the parallel mirror set is configured to receive ~~receives~~ the incident light from the light source with the first reflection mirror, to reflect ~~reflects~~ the incident light to the optical path turning mirror with the first reflection mirror, to receive ~~receives~~ the incident light back from the optical path turning mirror with the first reflection mirror, and to reflect ~~reflects~~ the incident light to the imaging mirror with the first reflection mirror.

25. (Currently Amended) The optical path device of according to claim 1, wherein the first reflection mirror ~~of the parallel mirror set~~ is positioned to reflect the incident light from the optical path turning mirror to the imaging mirror.

26. (Currently Amended) The optical path device of according to claim 11, wherein a number of reflections of the incident light between the first reflection mirror and the second reflection mirror corresponds to at least one of an angle the incident light approaches the parallel mirror set from the light source, an angle of the optical path turning mirror relative to the parallel mirror set, or a predetermined distance between the first reflection mirror and the second reflection mirror.

27. (Currently Amended) The optical path device of according to claim 11, wherein the parallel mirror set is configured to receive ~~receives~~ the incident light from the light source with the first reflection mirror, to reflect ~~reflects~~ the incident light to the optical path turning mirror with the first reflection mirror, to receive ~~receives~~ the incident light back from the optical path turning mirror with the first reflection mirror, and to reflect ~~reflects~~ the incident light to the imaging mirror with the first reflection mirror.

28. (New) The optical device of claim 11, wherein the first reflection mirror is configured to reflect incident light received from the second reflection mirror to the optical path turning mirror.